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An Account of some Books.

- I. *SCHEEPS-BOUW en BESTIER*, that is, *NAVAL ARCHITECTURE and CONDUCT*; by N. Witsen, printed at Amsterdam, 1671. in Fol.

THE Ingenious and Industrious Author of this Work having considered with himself, that his Country-men, though so flourishing in Navigation and Naval Architecture, had yet published nothing of that subject, except what *De Heer Sjassens* had written of the *Politie* of Shipping, did resolve with himself to break that silence, and to communicate unto the World a History both of the *Ancient* and *Modern* way of Building, Equipping, and Governing of Ships; which design having been by him put in execution in this Book, he therein largely treateth not only of the Manner of the Naval Architecture used by the *Greeks* and *Romans*, together with their Naval Exercises, Battles, Discipline, Laws and Customs; but also of the Method and Way used at this day both in his own Country, *England*, *France*, and the *Indies*, together with the difference there is between the Manner of Building Ships, practised by *Others*, from that of the *Dutch*, and particularly of the *Indian* way of Equipping their Ships, and the manner of Building Gallies: All enriched with an ample Seamen's Dictionary, and a great number of Illustrating Diagrams.

The whole Work is divided into Two main Parts; The *First* contains XIX Chapters; whereof,

1. Giveth an account of the first Builders of Ships, and in general of the Building of the Antients, both before and after the Deluge; where the Author particularly discourseth of *Noah's Ark*; of divers Ships found deep under ground; of the structure of the Ship *Argo*; of the Navigation of the *Phenicians*, *Rhodians*, *Corinthians*, *Ægyptians*, *Tyrians*, *Cretians*, &c.

2. Delivers the Way of the Naval Architecture of the *Greeks* and *Romans*, both for War and Commerce, together with the manner of Equipping their Ships row'd with Oars, both of single and manifold ranks, and the sitting of the Rowers:

Where

Where he treats of the *Biremis Pistrix* ; the *Biremis Vallata Oneraria Cerealis Siracusia* ; the *Biremis* and *Tiremis turrata* ; the *Tiremis vallata*, &c.

3. Discourseth of several sorts of the Ancients Structure of Ships, and chiefly of the great Vessels built by *Philopater* and *Hiero*, the pompous make of both which is here represented ; as also of the numerousness and launching of their Ships.

4. Enumerateth divers un-common Observables in Ships both of Ancient and Later times, as in *Noah's Ark*, the Ships of *Argo*, *Theoris*, *Paralon*, *Salamine*, *Magellan*, *Drake*, &c. To which he adds that Noble Fregat built in *England* A. 1637. called the *Soverain*, of 1637 Tuns, having a keel that was to be drawn by 28 oxen and 4 horses ; as also a Description of the *Spanish Armada* of 1588, called the *Invincible* ; not forgetting the *Bucentoro* of the *Venetians* ; nor the *Mageleza* of the *Suedes*, a Man of war, appearing at Sea about 100 years since, and having sides of that thickness, that all bullets stuck within her boards. In this Chapter is inserted a Relation of a Ship found in the time of *Pius II.* in the *Numidian Sea*, 12 fathoms under water, 30 foot long and of a proportionable breadth, built of *Cyprus* and *Larix* wood, and reduced to that hardness, that it would hardly burn ; as it was also very hard to cut : No signs in it of any rottenness any where ; its deck cover'd with paper, linnen and leaden plates, fastned with guilt nails, as also were the boards ; the whole ship so close, that not a drop of water was found soaked through into any close room. The Author concludeth it to have lain there about 1400 years.

5. Relateth, what great Fleets were anciently set out, and what far voyages undertaken : where he taketh particular notice of the Expedition of the *Argonautes*, of *Xerxes*, of *Alexander M.* of *Rome*, and *Cartage*, of the *Saxons*, *Britons*, &c.

6. Describeth what the Antients observed in Building their Ships, and how they closed, rigged and beautified them ; where occur several relations of divers ways of cementing, caulking, pitching, and defending ships from rottenness and worms ; of which I shall only mention, what occasionally he alledgeth of a certain cement now used by the *Indians*, made of finely beaten reeds, chalk, and oyl, with which
their

their Ships are over-laid to keep them from rotting.

7. Rehearseth the State of Naval Architecture after the Ruine of the Roman Empire; especially amongst the *Scythians*, and *Saracens*, invading *Italy*, *Spain*, *France*, &c; together with the endeavors of the *Romans* under *Justinian* and others, to defend themselves against those *Barbarians*: Not omitting, what was done by the *Danes*, *Huns*, *English*, *Saxons*, and particularly by that Brave and Vigilant King *Edgar*, who maintained a Fleet of 3600 sail, which he divided into three Squadrons, called the Eastern, Western and Northern, sailing in them himself every year round about *England* and *Scotland*. To this he annexeth, at what time Shipping was at the lowest ebb, and how it began to be restored by some Kings of *Portugal*, the *Frieſlanders*, and his Countrymen in general, about 200 years since.

8. Giveth an ample and very particular account of the present way of Building Ships, both for War and Trade, in *Holland*. Where are represented not only the Parts of a Ship in their several Figures, together with their Names, and Uses; but also a whole Ship, perfectly rigg'd, and on it the parts marked, with reference to the annexed Discourse, wherein they are described.

9. Contains a particular Description of the Proportions of all the Parts of a Dutch ship, and the Measures of some peculiar sorts of Vessels of that Country: Where he instanceth in several Ships of different lengths, as of 134, 160, 150, 140, 125, 130, feet long; as also in a Frigate, 130 feet long; and assigneth the measures and proportions of the respective parts thereof: Adding withall an account of divers Frigots and other Ships, there built by some of their most famous Shipwrights, to the number of *Twenty six*.

10. Declareth the Make and Weight of all sorts of Ankers, and the bigness and weight of Cables in general, and in particular of certain Ships built there; as also the measures and proportions of Masts, and Sails, of divers Vessels, and how Sails may be best ordered to take in most wind, mathematically shown: Where Occasion is taken to insert considerable remarks about the several sorts of Hemp, and the best way of
working

working Cables, and the care to be had in the manner of tarring them, and in the degree of heating the tar for that purpose, &c.

11. Delivers the Method of conjoyning the parts of a Ship one after another, used by *Dutch Ship* wrights; together with a representation of a Ship upon the *Stocks*, and their manner of *Launching* ships: Adding their way of redressing a ship that lieth on her side, as well as of laying her on her side for repairing or cleansing; and intimating also, that amongst them a ship 180 or 185 feet long, can conveniently be built up, by 50 men, in 5 months; and that the charges of building a ship, 165 feet long, 43 feet broad, and 31 feet high, built of the best timber, amounts to 74152 gilders; besides its iron-work, which together with its rigging comes to 19483 gilders more, without the warlick equipage: Judging withall, that such a ship, well built and kept with care, may last 20, 30, 40, to 50 years; mentioning also, that he had seen a certain *English* vessel, of 70 years old, and not yet altogether useless.

12. Speaks of the measures and proportions of several other Sea-vessels, that are of a structure and use different from that of the former; such as are Flutes, Green-land-vessels for Whale-fishing, Advice-yachts, Boyars, Galliot, Fire-ships, Pinks, Busses, &c.

13. Treats of other sorts of Vessels, as Coasters, Yachts, Challoups, Lighters, Boats, Skiffs, Double-bottom'd Vessels, ships rising without being unladen, and such as move under water, or against the stream, and especially of a Vessel used at *Amsterdam*, whereby in one day may be fetch'd up 50 or 60 boats of mud, performed by the means of a big wheel and large spoons. In the same *Chapter*, instructions are given concerning the Choice of Ship-Timber; where are to be found many necessary and very useful Observations and Directions relating to the purpose in hand, and a particular commendation of the *English* and *Irish* Oak for ships. To all which is added an Enumeration of all sorts of Tools and Engins requisite for this kind of building.

14. Considers

14. Considers the Structure of *Galleys* and *Galleasses* in particular, and what is peculiar in them and different from other ships; taking also notice in brief of *Galleasses*, *Brigantines*, *Feluccas*, &c.

15. Discourseth of the Proportions observed by the *English* and *French* in the building of their respective ships: Where he taketh special notice of Four Frigats of four distinct rates; exhibiting and describing them as they are to be found in the Duke of Northumberland, *Robert Dudley*, his *Arcano del Mare*, printed at Florence; and concluding this Chapter with a description of the Frigate called the *Royal Charles*, (some years since fallen into *Dutch* hands,) and an Encomium of the *English* Orders at Sea.

16. Maketh a Narrative of the *Indian* way of framing ships: Where first of all occur the *Canoe's* and their Structure out of one only Tree, hollow'd by burning. Next, the *Chinese Yonks* of *Nankin* (a sort of flat bottom'd Boats,) and other Vessels of the same Country; among which those are described, that are as big as little Islands, and hold many houses and families, floating upon the waters, and going up and down through all the parts of *China* that have the conveniency of navigable rivers: To which is added a description of a Royal *Chinese* boat, of a Serpentin shape, sent to receive the Dutch Ambassadors in those parts. Then the ships of *Malabar*, *Ternate*, *Sumatra*, *Japan*, *Terra del Fuego*, (in which last are made very artificial boats of the Barks of the thickest Trees, as in *Malabar* some are made of large Canes, called *Bambu*;) Moreover of *Borneo* and *Calecut*. After this, the Author returns to *China*, and relateth, that ships are found there, which upon rollers sail over Land; and giveth a large account of the vast number of ships, both warlike and markantile, maintained in that Empire; together with the odd Architecture of the same, and the skil of that people in Navigation; as also an intimation taken out of *Martinius*, touching the Ancientness of the *Chinese* Shipping, and their Colonies found settled in *Madagascar*, and their Sailing in old times even as far as to the *Red Sea*. He concludeth this Chapter with describing the ships of *Madagascar*, *Bengala*, *Macassar*, *Siam*, *Pegu*, *Maldives*, *Ormus*, *Congo*, *Russia*, *Lapland*, *Virginia*, &c.

17. Demonstrates

17. Demonstrates, how much weight of water there lieth against a Ship moving at Sea; having first laid down certain propositions made out by *Stevinus* in his *Hydrostaticks*; which Writers foot-steps our Author acknowledgeth to have follow'd herein. Besides he examines also the Center of Gravity of a Ship; which being known, it may be certainly concluded, How a Ship is to lye upon the water, and how heavy it is when 'tis floating, whether loaden or unloaden. Lastly he imparts the way of the Excellent *Hudde*, of calculating exactly, what burthen a ship can carry either in Salt or Sweet water? Where he also examines the weight of the water, in which a Ship is floating; for which purpose he caused to be made a *Cube* of Copper-plates, of half an Amsterdam-foot a side, fitted after a certain manner, too particular to be here related, whereby he found, that upon the 15th of *March*, a foot of *Rain water* weighed 49 lb. 14½ ounces; and *F-water*, 46 lb. 2½ ounces; and *Texel-water*, 46 lb. 9 ounces. To all which he adds the way of measuring the Quantity of a Ship's burthen, that hath been agreed upon between the King of Denmark and the States of the United Provinces; as also several ways of doing the same, used by other Nations, and particularly that of the *English* and *French*.

18. Explains and gives reasons for the several sizes and shapes of the parts of a ship; as why the Masts ought just to be of such a bulk and height? Why some of them must incline backward, some stand upright? Why a small Rudder can turn a great Ship; and a little Anker stay it? What maketh Ships not feel the Rudder? Why Vessels too broad are weak and prove inconvenient in high Winds? Why long and moderately narrow Ships endure the Sea better, than short and broad ones? How the Keel ought to be placed? Why *Gallions* and the parts of them are fram'd as they are? Why a Ship is to be broader before, than a bast? That *Fregats*, built long, narrow and low, sail best. What hinders well-sailing? Why *Turkish* Vessels are excellent Sailers? And many questions more, considered by this Author.

19. Reckons up the particulars of the loose apparatus necessary in a moderately far Voyage for an hundred men, in a ship 134 foot long, both for her conduct and defence, and the Food of the Marriners.

And so much of the *First* Part of this Book.

The *Second* part comprehends the **EQUIPPING** and Conduct of Ships, and Navies, as well by the Antients as Moderns; couched in IV. Chapters.

1. Discourseth of the Equipping and Ordering of Ships and Sea-men, practised by the *Creeks* and *Romans*; as also of the Old rights and Laws of Marriners, their Victuals, Encouragements, Punishments, and Arms, together with their manner of Fighting, and Triumphant upon a victory obtained where are related several Sea-battels and their Events; as also divers famous Pirats, recorded in the Roman History.

2. Describeth the present Conduct and Government of the States General of the United Provinces in their Warlike Fleets; together with their Orders for Convoy-ships. Where are inserted the particular Commands and Instructions given by the said States in the late War between England and that Republick; as also their Placaet concerning *Prizes*. To all which is subjoined the Ship-masters and Stiermans way of disciplining the Sea-men, and the manner and form of commanding them to perform their part according to the several occasions at Sea. Which Chapter is concluded with several remarks concerning the *Load-stone* and the *Sea-Compass*, and especially with what care the Needle for the Compass is to be touch'd by the Magnet.

3. Observeth the Ordering of Merchant-ships, and the Conduct of Admiralties; as also how they man and arm their Trade-ships in general, and in particular those that navigate Nord ward, and their Herring-Busses; as also those that saile to the Mediterranean. Further, how things are managed amongst them on Ship-board, in reference to the Seamen, Officers, Souldiers, &c. in their Navigation to the East and West-Indies, Greenland, &c. In this *Chapter* 'tis also represented, what benefits redound to a Country by Shipping, as to the increase both of its Power and Wealth.

4. Contains a Sea-Dictionary, explaining the Names of the parts of a ship, and the words and phrases used among Sea-men for all sorts of naval concerns.

II RECHERCHES & OBSERVATIONS sur les VIPERES,
faites par Monsieur Bourdelot. A Paris, 1671. in 12^o.

THIS small Discourse is an Answer to a Letter, which the Excellently Learned Author had received from Signor Redi, First Physician to the Great Duke of Flo-

rence*. In it Monsi. Bourdelot declares, that though Signor Redi's Letter do not finally decide the matter in question, yet it is very useful to the farther knowledge of the nature of Vipers by the particularities by him recited.

*Of this Letter, being printed, an Account was given in Numb. 66. p. 2036. of these Transactions.

The controversie being, whether the *Yellow* liquor about the long and crooked teeth of vipers are, even when they are not irritated, venomous; (which is affirmed by Signor Redi,) or, Whether it be a simple innoxious *saliva* or spittle, as is maintained by Monsieur Charas: This Author observeth, that that liquor controverted is not *yellow* in French vipers, as 'tis in those of Italy: Which remark he makes use of to the advantage of the often mentioned Redi, who would reconcile these two opinions by suggesting, that the Vipers of Italy and France are differently disposed; countenancing this Observation with what he hath taken notice of, that the venom of the *Lues Venerea* is much more maligne in hotter than colder Countries; and also with what is constantly related by Voyagers, viz. that Animals are more venomous in Africa than elsewhere. But that notwithstanding this, the Objection made by M. Charas seems not cogent, when he speaks of a Vipers teeth, whose bite prov'd not mortal, although that teeth had been rubbed off and perfectly dried with bread-crumbs: whereby he would support that Experiment, in which he caused to be bitten and killed 7 or 8 animals one after another, of which the last bitten died first; it seeming impossible to him, that there should be remaining any of that salival Juice about his teeth after so many bitings; and that therefore, to give a cause of that death, recourse must be had to the fierceness of the spirits, transmitted to that crooked teeth, to be revenged of those, against whom these beasts are provoked; which angry spirits being thrust into the flesh and veins do infect the spirits and blood of those that are bitten. To which our Author answers, that 'tis hard to

maintain, that the vindicative Spirits can pass through a body so solid, as Teeth are, especially since the *little* teeth have been found by Experience to cause as dangerous effects, as the *great* ones, after that these had been broken out: And that therefore it may be justly doubted, whether by the said bread-crumbs all the salival liquor about the teeth of an animal alive could be taken away; as it may be truly affirmed, that the Vipers-teeth are incessantly plunged into their sheaths, and do there continually fill themselves with the said Juice.

But he esteems withall, that in hot Countries this liquor may work alone, when conveyed into our flesh by the teeth of a dead Viper, or even with an Ear-picker, into a wound; as it comes to pass in *Italy* and in hot Countries; but in *France* and in colder parts, especially such vipers being used as are kept in runs and brought from a far off, the said juice not being strong enough alone, needs to be made keen by the bilious breath of the angry Viper.

And here the Author exspatiateth into a discourse, to shew, that without recurring to a vindicative spirit, passing through a sharp teeth as through a needle, the cholerick breath of an incensed viper may exceedingly invigorate that liquor, and prove a ferment to the same, like some *Afflatus malignus* & *Flalitus teter*. Where, among other particulars, he speaketh of a Gardiner, who upon the grafting of his Trees, never found more than half the grafts to thrive; of which at last this cause was discovered, that he still took together two grafts to inoculate, of which he first grafted that which he held in his hand, and then the other which he held in his mouth, which having rotten teeth, did taint the sweetness of the vegetative Juice in the second graft, which was always found wither'd away. To which he adds, how certain breaths of wind corrupt meat, especially when it thunders and lightens; how the exspirations of some men and animals, when corrupted do the like; and that one may be particularly sensible of the breath of a man in choller, and that the bite of a redhaired person is venomous; moreover, that if a man having washed his mouth with vinegar breaths into a bottle, the wine put into it will sowre, and that a butchers boy having eaten oignons and garlick, or having rotten teeth, the beef or mutton by him blow'd upon the night before, will
be

be livid next morning, and worth nothing, &c. He mentions likewise an Experiment, by him intended to be made, of putting some of the foming of a mad dog into the wound of a sound dog, to see whether that will make him mad also, and whether it be not the breath of the biting dog, which by its agitated spirits causeth that commotion of madness. Whereupon he observes further, that the breath coming from the spogy Lungs of vipers enraged, is of greater force then all those he hath spoken of, and that 'tis full of bilious spirits when they are angred. Where he examines, whether *Vipers* have a passage ascending from the Bladder of Gall to the throat, as he affirms he hath found in *Snakes*, and particularly in those of the *Grotta dei Serpi* near *Bracciano*, famous for curing stubborn maladies by big snakes winding themselves about the bodies of the sick exposed there; of which he affirms to have seen the Experiment himself.

He concludeth the whole with observing, 1. That as *Vipers* are easily provoked, so they are very gentle when their bile is not agitated; and that it may be said, they know those that tend them, who take them out of their tuns with whole handfulls innoxiously. 2. That *Vipers* do exceedingly abound in Spirits, whence they are so proper to restore the aged, and to prolong their days; and that the heart or liver of a viper is one of the greatest Alexitery's in the world, and admirably efficacious in malign fevers.

We must not omit to take notice here, that this Author p 17. 18 mentions, that the Gentlemen of the *Academy of England* (for so he is pleased to call them) do ascribe the venom of *Wasps* and *Bees* to the *Laceration* that is made by the stings of those creatures.

Whom he means by this *Academy*, we know not, unless it be the *R. Society*, who yet never publish't any thing as theirs, whether of this or any other kind. If he mean the *Micrography*, composed by *M. Hook*, a Member of that Body, the contents of that book, however licensed by that *Society* as ingenious, or of any other, thus honoured, ought by no means to be taken for the sense of that Body. But neither does that Book affirm any such thing, but plainly observes, that the said laceration of the stinging animal is follow'd by a virulent liquor which is there made
the

the cause of the troublesome effects, that ensue. So that the sense of this part of the *Micrography*, (if that be pointed at) hath been ill interpreted and represented to our Author ; who, not to leave that unmentioned) promiseth to publish something, wherein he means to shew, that there are many Insects, which most assuredly are not bred by an Egg : Which piece the Curious are very desirous to see.

III. *Admirandorum FOSSILIVM, quæ in tractu Hildesheimensi reperiuntur, Descriptio, Iconibus illustrata, à D. Friderico Lachmund, Hildesheimi, 1669. in 4º.*

THis Description containing several things, that may increase the Materials for an History of Nature, (the composition of which is now almost every where endeavoured after ;) we thought fit, among other Writers of this kind, to take notice also of this Author, who delivers what he hath met with in the Country above-mentioned in four Sections.

In the *First* he discourseth of the *Earths* there found, as Marles, Clays, Fullers Earth, Tripoli, Black Chalk, a Vermilion Earth, (melting like butter upon the tongue) and Oker.

In the *second*, of *Concrete Juices*, as Salt, Niter, Alum, Vitriol, Sulphur, Bitumen, and this latter, (to which he refers the *Succinum* or *Amber* so copious in *Borussia*,) he saith is there digged out in a certain hill, called *Dester*.

In the *third*, of *Stones*, especially Spars, Touch stones, Marble, the *Lapis Specularis*, Blood-stone, *Schistus*, *Lapis Samioides*, Crystal, *Brontia* and *Ceraunia* (vulgarly called Thunder-stones,) several sorts of *Belemnites's*, some of which being rubbed smell like burnt Horn ; Eagle-stones ; *Cornu Ammonis* ; various shells petrified ; *Trochites's*, which being put in vinegar raise bubbles like the *Astroites* ; Stones representing Flower-de-Luces ; divers Angular stones ; Stones resembling Trees ; a fossil Ebony ; whole Columns of dropping lapidescent water cengealed, of the thickness of a man ; *Osteo colla* growing in a sandy ground, sometimes like coral, and at its first coming out of the Earth friable, but by degrees growing hard ; fossil Unicorn and Ivory, commonly hard without, but within soft and friable, sticking close to the tongue, and of a pleasing sent :

To

To all which is added an enumeration of variously shaped Stones; found in the bodies of Men and Women ; among which there is mentioned one, which being taken out of the cheek of a woman, was found to be a Cherry-stone, round about incrustrate with stony matter, the Cherry being supposed to have been forced into the Cheek by a fall, and there in process of time thus crusted over, as hath been said ; as also very many stones come out of the corner of a young Womans Eye:

In the *fourth*, of some uncommon Springs, among which are related some ill senting, and deadly Springs, whereof one is mentioned smelling like rotten Eggs ; and another, in which, when cleaned and renewed, four workmen were killed by its noisom exhalations, &c.

IV. *De CATARRHIS*, A. Rich Lower M.D. in 80.

WE mention this Book only to give notice, that 'tis now printed by it self in *England*, to be found at Mr. *Martyn's* Stationer at the *Bell in Pauls Church yard* ; referring the Reader for the account of the Contents thereof to *Numb. 73.* where it was spoken of, when we saw it printed in *Holland*, together with the Authors Book *De Moin Cordis & Sanguinis.*

V. *Goth. Voigtii DELICIÆ PHYSICÆ* : Rostochii A. 1671. in 80.

THIS Author entertains his Readers with divers curious subjects, such as are the Bleeding of persons killed, at the presence of the Murtherer ; the Tears of Crocodiles ; the Licking of new whelp'd Bears by their Dams ; the Love between Wolves and Sheep, Fossil Fishes ; the Casting of Horns by Deer, &c.

As to the *first* of these, he shews it to be a very dubious and dangerous inference, to conclude a person guilty of murder from the eruption of the blood of the slain ; since that both a sufficient natural reason may be given for such bleeding, whosoever be present ; and examples are extant of such an effect, when yet the most innocent were by, even a Bridegroom sitting by his dead Bride, when the blood burst out of her body.

The *Second* argument is resolved by distinguishing meer Moisture or aqueous drops from Tears properly so called, which latter this Author adscribeth to Rational creatures alone, as only capable of true grief.

The *third* Inquiry, whether the whelps of Bears are born unshapen and imperfect, is here answer'd in the *Negative*, those young creatures being in truth found no more unfashioned and defective in their kind, than others in theirs ; and the licking of the she-bear being common to her with other animals, that do the like to their young ones.

The *Fourth* is so determin'd by this Author, that he pronounceth the wolfe's tearing and devouring of sheep to proceed not from Sympathy or Love, but from the Contrary ; it being found, that Wolves often worry many more sheep, than they can devour ; there appearing also a manifest aversion betwixt them from the sheep's flying away from

from wolves, instead of which there would be a consociation, if there were a sympathy betwixt them. Where a particular Example being recited of a Wolf keeping and defending sheep ; the thing is attributed to their being bred and fed together, and not to any natural Love.

Concerning the *fifth*, 'tis here affirmed, that there are Fishes under ground and in mines where waters are found, which may either be naturally met with amongst earth, or conveyed thither by various accidents, inundation of rivers, absorption of rivers, earth-quakes, &c. Where some relations are inserted of odd things found under ground ; as of a whole ship fit to sail in the Sea, found A. 1594. near *Maeft rich* under a sandy hillock ; and of another very old ship, found by mine-men A. 1462. not far from *Berne* in *Helvetia* under ground, together with its hempen sails and anchors, &c ; as also store of Pine-trees, found in the *Peele* orderly placed under the Earth, which else grow in raised ground.

Touching the *Sixth*, viz. the Casting of Horns by Staggs, 'tis here distinguished, that Castrated Staggs do not cast their Horns, but Entire ones do ; yet not so, as that these latter are by good experience known to cast them every year, though it be generally said and believed that they do so ; whereas in the mean time 'tis commonly held, that every year in the first six years some addition is made to the branched Horns ; unless that be to be understood of a greater number of branches, growing every year, for so long a time, instead of the lesser number cast off.

Of this *Casting*, the Cause is also here inquired, some adscribing it to such a cause, as maketh Leaves fall from Trees, by reason of the want of a glutinous moisture ; others imputing it to their too great Hardness, hindring the diffusion of the copious affluent blood, out of which, being gathered about Autumn, worms in time are bred, which gnawing and thereby exciting the itch make the animal rub off its horns against some Tree ; others refer it to both, as our Author.

Lastly, of *Falling Stars*, vulgarly so called, they being in truth nothing but a Meteor : touching which this Author discusseth several Questions ; as, How it comes to pass, that at times the True Star, under which the trajection happens, doth not presently appear ? Whether those Trajections of Stars do also happen in the day time ? Why those Stars when they fly through the Air, seem to represent a long course ? why the motion of Falling Stars is slower at the latter end ? &c.

E R R A T A.

In Numb. 74. p. 2238. l. 24. read, *ninth* of *August* v. *st* not *n* *st*.

L O N D O N,

Printed for *Joh. n Martyn*, Printer to the Royal Society. 1671.